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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,532	06/12/2000	Michael Greiffenhagen	00P7676US	5365

7590

02/12/2004

Siemens Corporation  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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BRODA, SAMUEL

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/592,532

Applicant(s)

GREIFFENHAGEN ET AL.

Examiner

Samuel Broda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. Claims 1-14 have been examined.

#### ***Information Disclosure Statement***

2. A few days after filing of this Application, co-inventors Greiffenhagen, Ramesh, and Comaniciu published "Statistical Modeling and Performance Characterization of a Real-Time Dual Camera Surveillance System" in the Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition. This paper appears to include some text, several equations, and four figures that are included in the Specification.

This paper also included 17 references to prior publications, with some of these references mentioned in the Specification. As of this Office Action, no Information Disclosure Statement and accompanying references has been received. These references appear relevant to making a patentability determination.

Applicants are reminded of the duty under MPEP Paragraphs 2000.01 - 2022.05 to disclose any material prior art known at the time of filing.

#### ***Drawings***

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

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***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which Applicants may become aware in the specification.

***Claim Rejections - 35 U.S.C. § 112, First Paragraph***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.1 Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

5.2 Regarding independent claims 1 and 14, claim 1 includes the limitation:

choosing a plurality of modules for restricting a search function within the space to a plurality of regions with a high probability of significant change . . .

and claim 14 includes the limitation:

computer readable program code for causing a computer to choose a plurality of modules for a [sic] restricting search functions within a context to a plurality of regions with a high probability of significant change . . .

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Although text at various places in the Specification states that the method chooses a plurality of modules (for example, text page 5 lines 4-23), the Specification does not appear to teach or describe how modules are chosen; instead, the Specification appears to describe a set of predetermined modules, each of which being based on a prior probability distribution function.

See page 5 lines 19-23, stating:

Each module is application specific based on prior distributions for imposing restrictions on a search function. The prior distributions includes [sic] for example: an object geometry model; a camera geometry model; a camera error model; and an illumination model.

Additionally, although the term “high probability of significant change” appears to be defined in the Specification at page 14 lines 5-26 and is named in Fig. 1, the Specification does not appear to teach or describe the input parameters or values to be used in the computation of the following functions mentioned at page 14:

- (1) the sensor noise model;
- (2) the transformation  $T(\cdot)$ ;
- (3) the change detection measure;
- (4) the reference image data
- (5) the indexing functions; and
- (6) the hysteresis thresholding parameters.

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The Specification also appears to lack flowcharts or other text describing the input parameters and steps necessary to identify the set of regions with probability of significant change. See MPEP Section 2106.02; see especially column 1 page 2100-27 (February 2003).

The Specification and accompanying figures do not appear to teach how one could make and/or use the invention but instead appear to describe the benefits of such an invention. Taken as a whole, only with undue experimentation could one reasonably skilled in the art make and/or use the invention, because of the omissions in the subject matter described in the Specification.

**5.3** Claims 2-13 are each dependent on claim 1 and are rejected using the same analysis.

***Claim Rejections - 35 U.S.C. § 112, Second Paragraph***

**6.** The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**6.1** Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

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**6.2** Regarding independent claim 1, the omitted steps are the steps that take the results of “applying a likelihood model for candidate hypothesis evaluation and object parameters estimation” in order to permit “locating the object.”

**6.3** Regarding independent claim 14, the omitted steps are the steps that take the results of “causing a computer to apply a likelihood model for candidate hypothesis evaluation and object parameters estimation” in order to permit “locating the object.”

**6.4** Claims 2-13 are each dependent on claim 1 and are rejected using the same analysis.

### ***Conclusion***

**7.** The prior art made of record and not relied upon is considered pertinent to Applicants’ disclosure. Reference to Cham et al, U.S. Patent 6,353,679 issued 5 March 2002 and filed 3 November 1998, is cited as teaching a sample refinement method of multiple mode probability density estimation using a set of sequential datasets taken from video frames.

Reference to Covell et al, U.S. Patent 6,188,776 issued 13 February 2001 and filed 21 May 1996, is cited as teaching a method of principle component analysis of images for the automatic location of control points.

Reference to Darrell et al, U.S. Patent 6,188,777 issued 13 February 2001 and filed 22 June 1998, is cited as teaching a method of personnel detection and tracking using a set of

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modules corresponding to: (1) range computation and foreground segmentation; (2) color detection and segmentation; and (3) face pattern detection. See Fig. 2 and corresponding text.

Reference to Oliver et al, "A Bayesian Computer Vision System for Modeling Human Interactions," M.I.T Media Laboratory Perceptual Computing Section Technical Report No. 459 (1998)(paper available at: <http://citeseer.nj.nec.com/oliver99bayesian.html>), is cited as teaching use of coupled hidden Markov models and synthetic agents for developing prior models.

Reference to Cui et al, "Indoor Monitoring Via the Collaboration Between a Peripheral Sensor and Foveal Sensor," Proceedings of the 1998 IEEE Workshop on Visual Surveillance, pp. 2-9 (January 1998), is cited as teaching the combination of a peripheral sensing agent that performs global monitoring tasks and a foveal sensing agent that performs focused monitoring tasks.

Reference to Oliver et al, "LAFTER: Lips and Face Real Time Tracker," Proceedings of the 1997 IEEE Computer Society Conference on Computer Vision and Pattern Recognition, pp. 123-129 (June 1997), is cited as teaching use of two-dimensional blob features with hidden Markov models.

Reference to Hunke et al, "Face Locating and Tracking for Human-Computer Interaction," 28<sup>th</sup> Asilomar Conference on Signals, Systems and Computers at Monterey (1994)(paper available at: <http://citeseer.nj.nec.com/hunke94face.html>), is cited as teaching a face tracking system using two neural networks to determine the position of an object with a face-like shape and its size.



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8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (703) 305-1026. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.



**SAMUEL BRODA, ESQ.**  
**PRIMARY EXAMINER**